

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/14500

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ F23C 10/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ F23C 10/24, C10J 3/00-3/56, F23G 5/027, F23G 5/30, B01J 8/24

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Japanese Utility Model Gazette 1926-1996, Japanese Publication of Unexamined Utility Model Applications 1971-2003, Japanese Registered Utility Model Gazette 1994-2003, Japanese Gazette Containing the Utility Model 1996-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1058051 A1 (EBARA CORPORATION) 2000.12.06, Full text ; Figs. 2A, 2B	1-4, 6-7, 9-10 5, 8, 11
A	Full text ; Figs. 1 to 7 & WO 99043985 A1 & AU 2641999 A	
X	US 5979341 A (EBARA CORPORATION) 1999.11.09, Full text ; Figs. 1 to 11	1-3, 6-7, 12 4, 5, 8-11
A	Full text ; Figs. 1 to 11 & EP 740109 A2 & CN 1134531 A & WO 96034232 A1 & EP 766041 A1 & CN 1152349 A & US 5682827 A1 & AU 690846 B & RU 2138731 C & US 5957066 A1 & US 5979341 A1 & RU 2159896 C	
Y	WO 02086026 A2 (EBARA CORPORATION) 2002.10.31, Full text ; Figs. 1 to 10	1-4, 6-7, 9-10
A	Full text ; Figs. 1 to 10 (Family none)	5, 8, 11-12

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

26.12.03

Date of mailing of the international search report

20.1.2004

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2-147692 A (EBARA CORPORATION) 1990.06.06, Claims 1,5-6 ; lines 3-9, lower left column, Page 4 ; lines 1-6, upper right column, line 13, lower left column to line 2, lower right column, Page 6 ; Fig. 2	1-3,6-7, 9-10
A	Full text ; Figs. 1,2 (Family none)	4-5,8, 11-12
A	JP 5-99415 A (EBARA CORPORATION) 1993.04.20, Claims 1,3 ; lines 31-41, column 3 ; Fig. 1 (Family none)	8

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Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see extra sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

The feature common to all of claims 1 to 12 is a fluidized-bed gasification furnace for gasifying combustibles, comprising:

a fluidized bed having a substantially rectangular horizontal cross section,

wherein a circulating flow of a fluidized medium is formed in said fluidized bed, and combustibles supplied to said fluidized bed are gasified to produce gas and char.

However, the feature common is not novel since it is disclosed in document JP 2-147692 A (EBARA CORPORATION), 6 June 1990, claim 1.

Consequently the common feature is not special technical feature within the meaning of PCT Rule 13.2, second sentence, since it makes no contribution over the prior art.

Therefore, the special technical feature of claim 1 relates to incombustibles discharging portions while the special technical feature of claim 11 relates to a freeboard having a substantially circular horizontal cross section. There is no technical relationship among those inventions involving one or more of the same or corresponding technical features.

Consequently, these groups of inventions are not so linked as to form a single general inventive concept.